December 28, 2020

BY ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
45 L Street, N.E.
Washington, DC 20554

Re: *Space Exploration Holdings, LLC, IBFS File No. SAT-MOD-20200417-00037; Docket RM-11768*

Dear Ms. Dortch:

This is to inform you that representatives of Space Exploration Holdings, LLC ("SpaceX") had separate conference calls with Commissioner Brendan Carr, Commissioner Geoffery Starks, and Commissioner Nathan Simington on December 22 and with Chairman Pai on December 23 to discuss the severe risk that any 12 GHz Notice of Proposed Rulemaking would cause to broadband users in rural areas and in urban broadband deserts. A full list of participants in these meetings is included in Attachment A. David Goldman and Robert McDowell had a separate call with Erin Boone and Tyler Bridegan from Commissioner Simington's office and referenced the attached presentation.

SpaceX discussed the successful balance in the 12 GHz band and how the record demonstrates conclusively that the MVDDS licensees' efforts to upset that balance would harm existing satellite broadband and satellite television users.[1] As has been explained extensively by actual providers of 5G service, claims that this band are suitable for 5G are misguided and inconsistent with the facts.[2] Instead, this band has become one of the most dynamic successes for providing broadband to consumers via next-generation satellite services, including those rural and hard-to-serve customers in urban broadband deserts who have gone unserved for too long. In fact, the Commission recently announced SpaceX as among the winning bidders in Phase I of the Rural Digital Opportunity Fund Auction.[3] SpaceX is committed to providing high-speed, low-latency broadband service to unserved consumers across the country. An NPRM suggesting that the rules in the 12 GHz band could be changed at this late date would put these consumers at risk in exchange for no tangible benefits.

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1 *See, e.g.*, Letter from Ruth Pritchard-Kelly, et al. to Marlene H. Dortch, RM-11768 (Oct. 20, 2020) (joint filing by six satellite operators summarizing opposition to MVDDS proposal).

2 *See, e.g.*, Letter from Patrick R. Halley to Marlene H. Dortch, RM-11768, at 2 (Oct. 21, 2020) (filing by USTelecom—the Broadband Association explaining opposition to MVDDS proposal).

3 *See Rural Digital Opportunity Fund Auction (Auction 904) Closes*; Winning Bidders Announced, Public Notice, Attachment A, DA 20-1422, AU Docket No. 20-34, WC Docket No. 19-126, WC Docket No. 10-90 (rel. Dec. 7, 2020).

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SpaceX looks forward to continuing to work with the Commission to bring high-capacity, low-latency broadband service to consumers in all parts of the country as quickly as possible.

Sincerely,

/s/ David Goldman

David Goldman
Director of Satellite Policy

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cc: Meeting Participants, Attachment A

Attachment A
Meeting Participants

Meeting Participants with Office of Chairman Pai
Chairman Pai
Sean Spivey
Elon Musk
Mark Juncosa
Tim Hughes
David Goldman

Meeting Participants with Office of Commissioner Carr
Commissioner Carr
Ben Arden
Elon Musk
Mark Juncosa
Tim Hughes
David Goldman

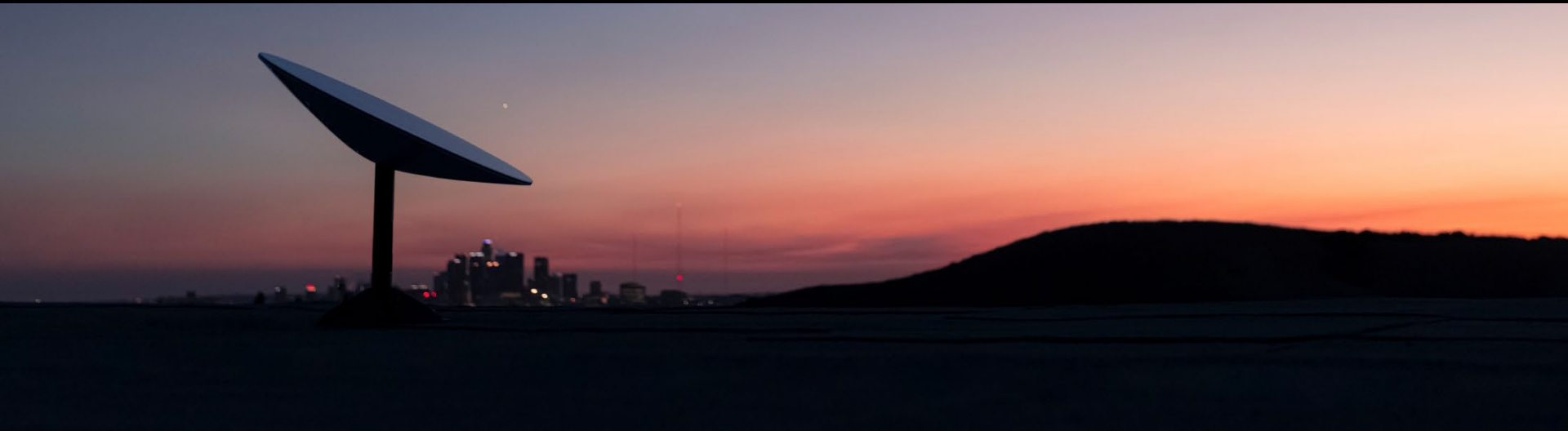
Meeting Participants with Office of Commissioner Starks
Commissioner Starks
William Davenport
Elon Musk
Mark Juncosa
Tim Hughes
David Goldman

Office of Commissioner Simington
Commissioner Simington
Erin Boone
Tyler Bridegan
Elon Musk
Mark Juncosa
Tim Hughes
David Goldman

December 2020

SPACEX

STARLINK OVERVIEW



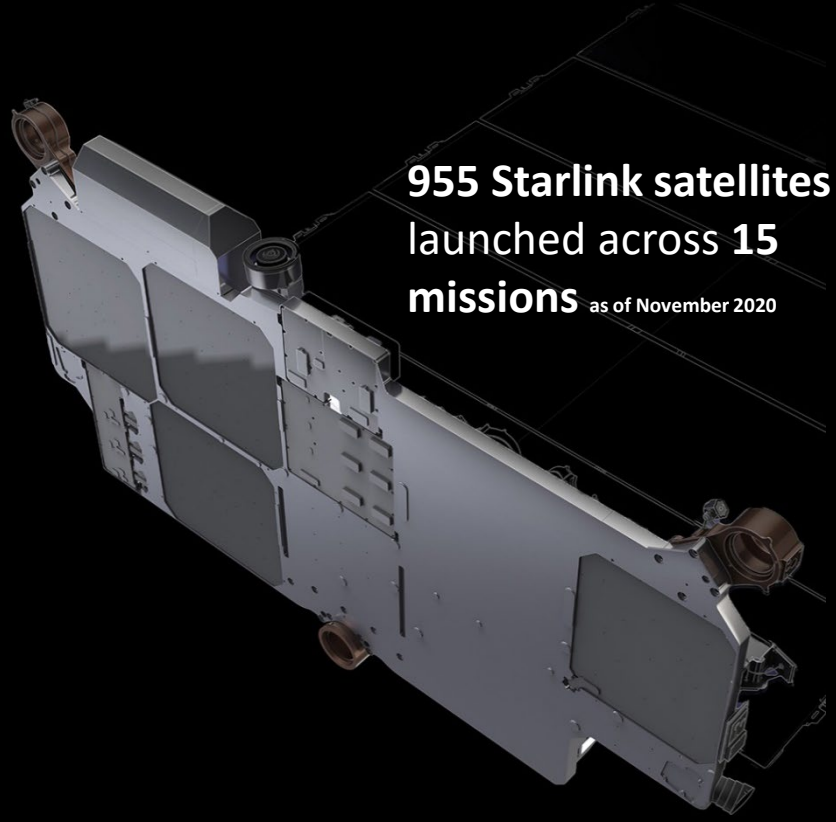
Starlink Global Connectivity

- High-speed, low latency broadband:
  - 100 Mbps (current) to 10 Gbps (future) downlink to user
  - <30 ms round trip latency to internet for most users
  - Exceeds FCC definition of Broadband (25/3 Mbps)

- Resilient and redundant:
  - Focus on quality and availability through path diversity and multiple routing options to every Starlink and Gateway
  - Rapidly deployable to facilitate end users access to broadband

- Continuous improvement:
  - Building to launching 120 satellites per month
  - Roadmap plans to evolve from Fixed to Mobile service
  - Ongoing software upgrades to accelerate throughput

- Responsible operation:
  - Lowest altitude LEO system w/ autonomous collision avoidance
  - Commitment to keeping space clean

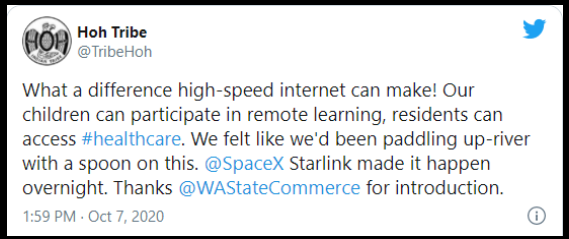


955 Starlink satellites launched across **15 missions** as of November 2020

Starlink Deployment Status

- Public beta service underway - direct-to-consumers across multiple U.S. states now
- Providing service to previously un/underserved households and students in rural areas
- Prices on par or better than existing options in remote areas
- No contracts; no early termination fees; no data caps
- Prioritizing emergency responders & locations with no Internet connectivity

“Remote tribe says SpaceX Starlink “catapulted” them into 21st century”



ECISD Communications

ECISD becomes first school District to utilize SpaceX satellites to provide Internet for students

COMMITMENT TO KEEPING SPACE CLEAN

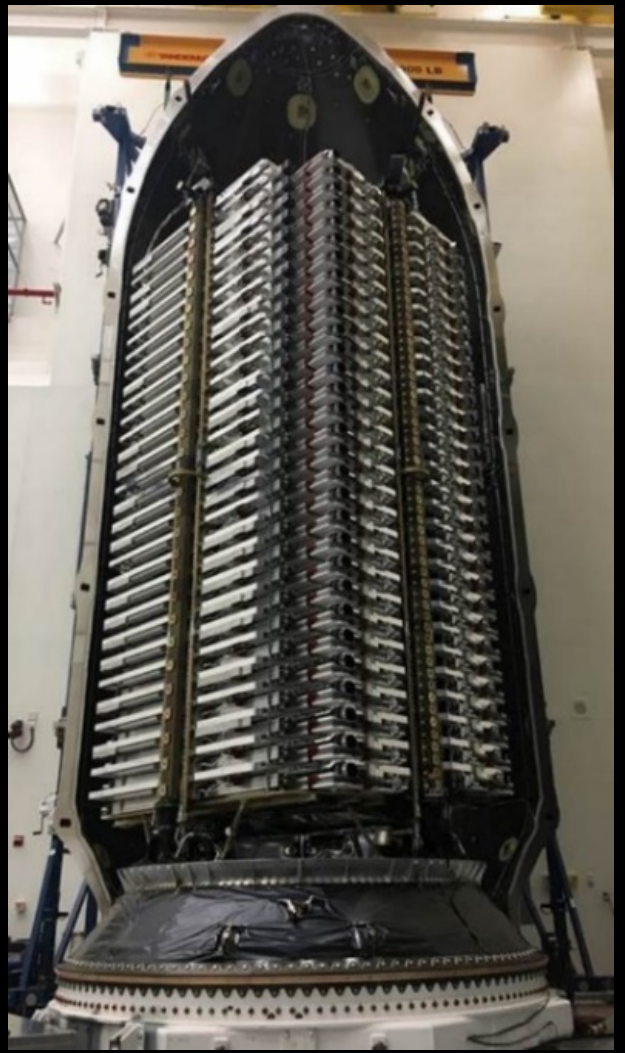
At end of life, the satellites will utilize their on-board propulsion system to deorbit over the course of a few months. In the unlikely event the propulsion system becomes inoperable, the satellites will burn up in Earth's atmosphere within 1-5 years, significantly less than the hundreds or thousands of years required at higher altitudes.

12 GHz in Brief

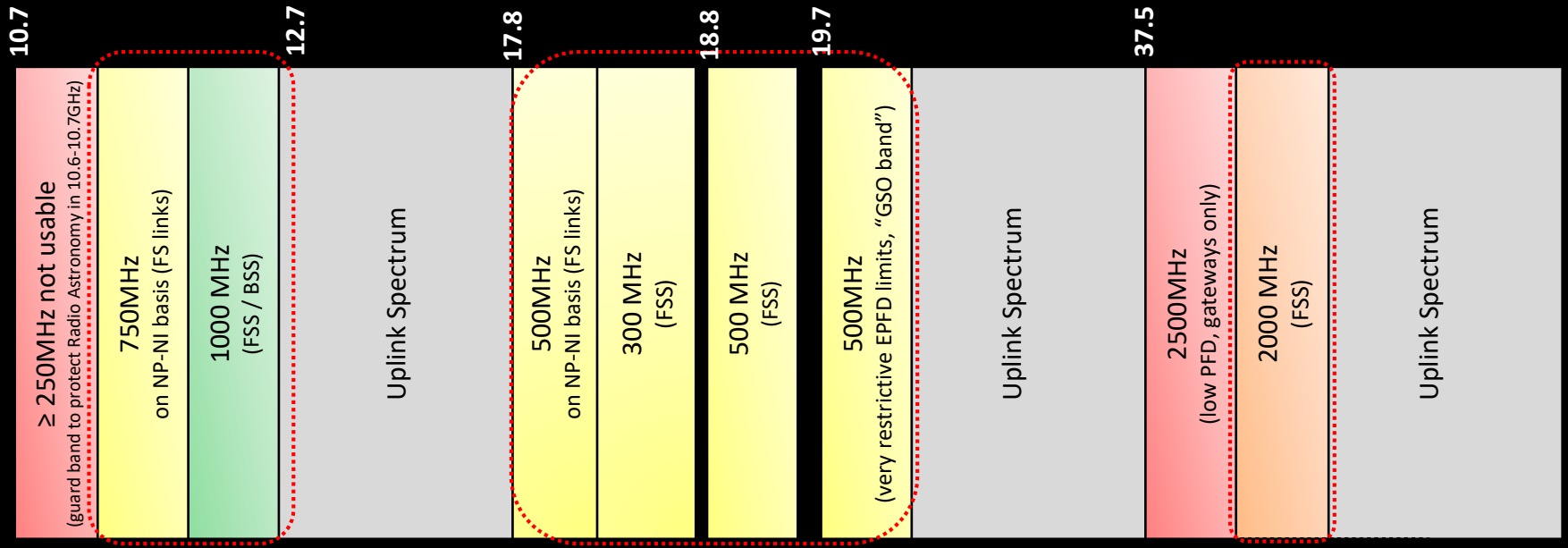
- Multichannel Video and Data Distribution Service (MVDDS) licensees have held spectrum for 15 years and provided no meaningful connectivity solution

- LEO satellite constellations like Starlink are being deployed today and will begin affordable, high-speed commercial broadband service to remote and rural users this year, a mere two years after being licensed to operate by the FCC

- LEO satellite technology is being realized now. Our ability to provide quality service in the US depends critically on the 12 GHz band



NGSO Licenses are Not Flexible Use—Services Cannot Be Moved



Spectrum available for reliable user downlink service

- Must protect GSOs
- Shared with other NGSOs

- High atmospheric attenuation
- Federal GSO and non-GSO networks must be protected over the entire Ka downlink spectrum (significant limitation)
- Must protect commercial GSOs
- Shared with other NGSOs

Not suitable for user service

- poor propagation
- technology not available for consumer terminals
- must protect GSOs
- shared with other NGSOs

Widespread Opposition

US Telecom: [I]f the FCC were to try and develop a plan that would allow for mobile broadband service, the Frankenstein creation of a band plan that would be necessary to enable flexible use and protect its subscribers would be “unlawful and inefficient.”

AT&T: The Coalition Proposal Would Harm the Commission’s Efforts to Spur 5G Deployment by Diverting Resources to an Inferior Service

T-Mobile: “additional rights should not be automatically extended to the current MVDDS licensees.”

Coalition of 12 Public Interest Groups: The 12GHz Band is not optimal for 5G.

Tech Freedom: reallocating the 12 GHz spectrum for 5G terrestrial uses will wreak havoc on NGSO FSS operations — the very services the FCC is banking on to deliver broadband to the “last rural mile.”

National Rural Education Association: Denying the petition “will benefit rural communities, rural school systems and American students living in rural areas..”

National Grange: will be protecting investment and innovation aimed at expanding broadband service, increasing competition, and ultimately bringing millions of rural Americans closer to the goal of affordable, reliable broadband connectivity.

Moving Forward with the 2016 Petition Would Exacerbate the Digital Divide

NGSO Broadband "meshes well with the FCC's twin goals of closing the digital divide and promoting innovation."

- NGSOs like SpaceX are poised to offer commercial service.
  - MVDDS proposal is years from deployment—at best.
- 12 GHz is only viable downlink spectrum for consumers.
  - MVDDS proposal would shred consumer throughput.
- Physics of high-band frequencies like 12 GHz allow satellite operators to serve every corner of the country.
  - MVDDS would never step outside of the densest parts of urban environments.